# OF THE STATE OF HAWAII

In the Matter of the Application of	)	PUC Docket 03-0371
	)	
PUBLIC UTILITIES COMMISSION	)	
	)	
Instituting a Proceeding to	)	
Investigating Distributed Generation	)	
in Hawaii	)	
	)	

### LIFE OF THE LAND'S

**OPENING BRIEF** 

<u>&</u>

CERTIFICATE OF SERVICE

HENRY Q CURTIS
VICE PRESIDENT FOR CONSUMER ISSUES
LIFE OF THE LAND

76 North King Street, Suite 203 Honolulu, HI 96817 phone: 808-533-3454 henry@lifeoftheland.net One women changed the world in 1959. One largely unknown East European blonde. Wanda Jablonski. Her story appears in Daniel Yergin's Pulitzer Prize winning book, <u>The Prize: The Epic Quest for Oil, Money & Power:</u>

"'Regards to All, Wanda' ... As correspondent of Petroleum Week and, later, editor of Petroleum Intelligence Weekly, she was the most influential oil journalist of her time. Blonde and stylish, she carried the European savoir faire required to get her through all sorts of situations. While she had the resoluteness and independence of Ida Tarbell, she was not a critic of the industry, but rather provided a channel for communication and intelligence in its great years of global expansion. Wisecracking and tough, a solo women navigating her way through a super-masculine world of engineers and nationalists, she intuitively grasped just how far to go in jousting with and needling her contacts, though always in an engaging way, until she got the story she wanted. She knew virtually everybody of significance in the oil industry. Periodically, over the years, she would infuriate one or another company or country with her scoops; sometimes, companies would cut off their subscriptions en masse, until she shamed them into resubscribing. In the final analysis, no one in a position of power or responsibility in the oil industry could easily do without her journal.

Born in Czechoslovakia, Jablonski was the daughter of a prominent botanist turned geologist who joined a Polish company that eventually became part of Socony-Vacuum, later Mobil. His job was to travel around the world, investigating the geological likelihood that competitive local oil might be discovered in countries where Socony planned to market. As it turned out, Jablonski learned more about plants than about oil from her father; she would be given a penny for every plant she could identify and once earned over a hundred dollars doing so on an auto trip across America. She trailed after her father as he worked around the globe, though often with long separations, and by the time she entered Cornell University, she had already been to school in New Zealand, Egypt, England, Morocco, Germany, Austria, and Texas, and had spent almost a month traveling by camel from Cairo to Jerusalem (and afterward had to be deloused). "I have a different attitude towards the world," she once said. "I can't fit in any one spot, except New York."

In 1956, just after the Suez Crisis, Jablonski made a memorable reporting trip through twelve countries of the Middle East, even wrangling an invitation to interview King Saud in Riyadh. "Guess where 1 spent yesterday evening?" she wrote back to her colleagues in New York. "in the harem of the King of Saudi Arabia. Before you jump to any conclusions, let me hasten to add that I was there ... drinking tea (with rose water), eating dinner, and having a perfectly gay 'hen party.' . . . Forget what you've seen in the movies, or read in the 'Arabian Nights.' None of that fancy, filmy stuff. Just plain, ordinary, warm home and family atmosphere-just like our own, though admittedly on a

considerably larger family scale! Regards, to all, Wanda." She did not mention the eunuchs guarding the King's harem, who looked right through her. Jablonski met not only King Saud, but also Abdullah Tariki, whom she described as "the No. I man to watch in the Middle East-as far as oil concession policies are concerned. . . he is a young man with a mission." She quoted at length Tariki's virulent denunciation of the American oil companies operating in Saudi Arabia. During a second meeting a couple of years later, during which Tariki was no less truculent in his criticism, she also passed on an important piece of information. "There's another guy who's just as nuts as you," she told Tariki. She meant Juan Pablo Perez Alfonzo, and she promised to bring them together.

In 1959 at the Arab Oil Congress in Cairo, she kept her word and invited Perez Alfonzo up to her room at the Cairo Hilton for a Coke. There she introduced Abdullah Tariki. "You're the one I've been hearing so many things about," said Perez Alfonzo. Now the real business for which Perez Alfonzo had come to the conference could begin. The two men agreed that they should talk secretly with representatives from the other major exporters. But where? There was a yacht club in Maadi, a suburb of Cairo; it was off-season and the club was virtually deserted. They could reconvene there, unobserved.

The ensuing discussions in Maadi were conducted in such great secrecy and with such extreme precautions that, afterward, the Iranian participant would say, "We met in a James Bond atmosphere." Those involved, in addition to Perez Alfonzo and Tariki, included a Kuwaiti; the Iranian, who kept insisting that he was present only as an observer and that he had no mandate to represent his government; and an Iraqi, who, since his country was boycotting the conference, was there in his role as an official of the Arab League. Given all these considerations, they could not make an official accord. But Perez Alfonzo knew how to sidestep that obstacle; they would make a "Gentlemen's Agreement," which would merely contain recommendations to their governments. All signed the agreement without hesitation, with the exception of the Iranian. He was so frightened about acting without authorization from the Shah that he disappeared, and the others had to call upon the Cairo police to find him so that he, too, could affix his signature.

The recommendations in the Gentlemen's Agreement reflected ideas that Perez Alfonzo had had in mind before leaving Caracas: that their governments establish an Oil Consultative Commission, that they defend the price structure, and that they establish national oil companies. The governments were also urged to jettison officially the much-treasured fifty-fifty principle -- much-treasured, that is, in the West -- and move to at least a sixty-forty split in their favor. In addition, they should build up their domestic refining capacity, move downstream, and become more integrated in order to "assure stable markets" for themselves, and thus better protect government revenues. In all its dimensions, the Gentlemen's Agreement, though secret, was a milestone in the changing dynamics of the petroleum industry. It marked the first real steps toward creating a common front against the oil companies. As for Wanda Jablonski, she was as

usual near the center of the action; she had just been the matchmaker for an alliance that would develop into the Organization of Petroleum Exporting Countries-OPEC."

### **Arab Oil Embargo (1973)**

The Middle East erupted in 1973 when Syria and Egypt attacked Israel. This fourth Arab-Israeli War, also known as the Yom Kippur War, lasted from October 6-22, 1973. The Soviet Union supplied the Arab countries while the United States supplied Israel. In the middle of the war, on October 17, 1973, the Organization of Petroleum Exporting Countries (OPEC) launched the Arab Oil Embargo, which continued until March 18, 1974. The oil price shocks propelled energy issues onto the front burner around the world. As the Department of Energy recently noted: "The Arab oil embargo came at a time of declining domestic crude oil production, rising demand, and increasing imports. The embargo was accompanied by decreased OPEC production, and with minimal global excess production capacity available outside OPEC, created short-term shortages and price increases. When Arab production was restored and the embargo lifted six months later, world crude oil prices had tripled from the 1973 average to about \$12 per barrel, and OPEC was firmly in control of the world oil market."

### The New Paradigm

The Oil Embargo changed the planet. Energy became a front burner issue. Visionaries, exploring new heights, laid out bold new initiatives based on energy conservation, energy self-sufficiency, and alternatives to fossil fuels. Nowhere was the vision stronger than in Hawaii, where advocates suggested that we become the international model for sustainability. In time, the fossil fuel industry, with its muscle, market share, and financial weight, would lead a fossil fuel counter insurgency. The fossil fuel industry would seek to muddy the waters, spreads half-truths and outright lies ... some visionaries would be discredited, others would be relegated to obscurity.

<sup>&</sup>lt;sup>1</sup> The United States Department of Energy's Energy Information Agency (EIA) web site: www.eia.doe.gov/pub/oil\_gas/petroleum/ analysis\_publications/chronology/petroleumchronology2000.htm

What is important about Hawaii, is that just before the cliff, we held a Constitutional Convention (ConCon) and the voters of this state amended the constitution to include an energy self-sufficiency clause. This clause has been forgotten and ignored. It has never been adjudicated in administrative action nor acted on by the courts. But it remains there, as part of the supreme law of the state. But I am getting ahead of myself. We must go back to 1974 to see how the state and the nation reacted to the oil embargo.

### **The National Response**

At the national level, President Nixon launched 'Project Independence' in 1974 to increase domestic supplies of oil. The Alaskan Pipeline Act was enacted. President Ford stressed energy independence, enacted the Corporate Average Fuel Economy (CAFE) standards for vehicles, and established the Strategic Petroleum Reserves. President Carter stated that the energy crisis was 'the moral equivalent of war' and called for a portfolio of domestic energy sources including both renewable and fossil fuels. The Department of Energy was created (1977) and the National Energy Act (NEA) became law in 1978. The NEA consisted of five energy bills including the Public Utility Regulatory Policies Act (PURPA). President Reagan removed the solar panels from the White House and decimated federal renewable energy programs.

## **State Legislature (1974)**

The Hawaii State Legislature enacted Act 237, now codified as Chapter 196-1, HRS: "Energy Resources. The State of Hawaii, with its total dependence for energy on imported fossil fuel, is particularly vulnerable to dislocations in the global energy market. This is an anomalous situation, as there are few places in the world so generously endowed with natural energy: geothermal, solar radiation, ocean temperature

differential, wind, waves, and currents--all potential non-polluting power sources."

### **Hawaii Energy Policy (1977)**

At the state level, energy self-sufficiency was the rage. The Legislature's most vocal renewable energy advocate was State Senator T.C. Yim², chairman of the Senate Energy & Natural Resources Committee. The Honolulu Advertiser noted that: "He's been called a zealot, an energy guru, a petulant man, a visionary. ... No other legislator runs even a close second to Yim in introduced legislation, workshops and plans for alternatives to oil as Hawaii's energy future."

Yim wrote energy pamphlets in 1977 and 1978. In the Introduction and Background' to his 1977 Energy pamphlet, Senator Yim wrote:

"There is resistance by energy companies (utilities, oil companies, and others) to shift to new technologies until they are completely proven, or pose only a minimum risk as compared to the existing technologies. This is due in part to the difficulty in securing needed financing in the private money markets for such programs. Some risks are involved with any new technology until it is fully proven and some R&D may not prove successful, but this is the price we must be willing to pay for the successful efforts that will fill our energy needs. ... What has been often suggested an energy crisis, could well become an economic opportunity for Hawaii. ... Many jobs and a great deal of business activity will result from the construction projects. Further, hundreds of new jobs will be created to operate these new energy industries and hundreds of millions of dollars will be expended annually to support operations. The economic multiplier effect of these types of energy programs is more than 2 times, hence a great impact will now be exerted upon Hawaii's total economy. The \$500 million now being spent annually to

<sup>&</sup>lt;sup>2</sup> T.C. Yim served in the State House from 1963-69 and 1971-73, and served in the State Senate from 1974-80. He served as OHA Administrator from 1982-85.

<sup>&</sup>lt;sup>3</sup> Yim loss could defuel energy drive. Barbara Hastings. Honolulu Advertiser. Monday, September 22, 1980. page A-7

import oil, will be reduced and eventually eliminated, with a positive effect on Hawaii's trade balance." "

## **Energy Self Sufficiency Studies (1977-79)**

"As reported in the State Plan, a 1977 public opinion survey found that the people of Hawaii strongly favor development of indigenous energy resources." Other Studies on Energy Self Sufficiency were published for the City and County of Honolulu, Kauai, Maui, the Big Island

## Hawaii State Plan (Act 100 - 1978)

The Hawaii State Legislature enacted the Hawaii State Plan (Act 100), now codified as Chapter 226, HRS.

Hideto Kono, Director, Department of Planning and Economic Development (DPED):

"The Hawaii State Plan, adopted by the Legislature in 1978, identifies the attainment of increased energy self-sufficiency as a major objective to be sought. The development and utilization of natural, indigenous, renewable energy resources abundant in Hawaii is necessary to the achievement of this objective."

<sup>&</sup>lt;sup>4</sup> A Comprehensive Energy Program for Hawaii, LRB Library HD 9502 H32 H38 1977 pages 3-4

<sup>&</sup>lt;sup>5</sup> Energy Self-Sufficiency for the City and County of Honolulu. May 1979. LRB Library HD 9502 H53 H34 1979

<sup>&</sup>lt;sup>6</sup> Energy Self-Sufficiency for the City and County of Honolulu, compiled and written by Students of Civil Engineering/Electrical Engineering 492, Alternative Energy Systems, UH at Manoa. Edited by Rob Haw, Karen Devenney and Nancy Ellen Brown by Energy Self-Sufficiency for the City and County of Honolulu. Hawaii State Library 338.8 E 1979; Energy Self-Sufficiency for the City and County of Honolulu prepared by Chew Lun Lau and others by Honolulu (Hawaii). Dept. of Public Works. Hawaii State Library H333.8 HONE 1979

<sup>&</sup>lt;sup>7</sup> Energy Self-Sufficiency for the County of Kauai by Kevin Kai Hawaii State Library H 333.8K 1979

<sup>&</sup>lt;sup>8</sup> Energy Self-Sufficiency for the County of Maui (3 volumes) by Ralph Masunda Hawaii State Library H 333.8 M 1978

<sup>&</sup>lt;sup>9</sup> Energy Self-Sufficiency for the Big Island (2 volumes) SRI International. E. M. Kinderman, Project Leader, and others by SRI International Hawaii State Library H 333.8 S 1980; Energy Self-Sufficiency for the Big Island Carl J. Vesy and Justus Muller Hawaii State Library 333.8V 1977; Energy Self-Sufficiency for the County of Hawaii: Energy Demand Patterns and Projections. Y. K. Hahn Hawaii State Library H 333.8 H 1979

<sup>&</sup>lt;sup>10</sup> Testimony before the Senate Committee on Economic Development: (April 16, 1979) re SCR 385

### **Hawaii Natural Energy Institute (1978-79)**

The Hawaii Natural Energy Institute (HNEI) published a series of manuscripts on energy self-sufficiency in 1978-79 including "Energy Self-Sufficiency for the State of Hawaii." The forward to this study stated:

"The people of the State of Hawaii are becoming increasingly aware of the near-total dependence of the State on imported petroleum products to meet their energy needs. There are no known reserves of fossil fuel in the islands, and only a small amount of energy is obtained from bagasse-fired and hydroelectric power plants. But the combined potential of Hawaii's natural energy resources -- geothermal reservoirs, tropical oceans, biomass, direct solar radiation, and wind -- is very large indeed. And no scientific breakthroughs are needed to make these resources technically feasible; only the solution of engineering problems and the orderly development of improved technologies are required to make their use economically practicable and environmentally acceptable.

No single one of these resources is likely to meet all of Hawaii's growing energy needs in the near future, but their development can substantially decease the amount of imported oil required. In the longer term, an economically feasible combination of these resources can make possible energy self-sufficiency for Hawaii and even the export of energy-intensive product.

There are several important reasons for developing Hawaii's natural energy resources. In addition to reducing Hawaii's dependence on imported petroleum and the possibility of energy-related economic dislocations, it would reduce the dollar outflow and improve the State's balance of payments. It would help reduce the rate of increase of the cost of energy to the State, and this would help to strengthen existing industries. Development of our own natural energy resources would also permit the State to use funds for new energy-generation industries that would otherwise have gone out of the State to pay for imported petroleum. For example, in 1976 petroleum costs were \$500 million which went out of the State. In contrast, the value of the sugar crop in 1976 was about \$250 million. Thus, if the State were able to retain half of the outflow of petroleum dollars, it conceivably could produce an industry comparable to the present sugar industry.

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<sup>&</sup>lt;sup>11</sup> Energy Self-Sufficiency for the State of Hawaii September 1978; HD 9502 H32 H3 1978. Energy Self-Sufficiency for the City and County of Honolulu. May 1979. LRB Library HD 9502 H53 H34 1979; Energy Self-Sufficiency Plan for the County of Hawaii: Energy Demand Patterns and Projections. June 1979. HD 9502 U53 H38; Energy Self-Sufficiency for the County of Maui. June 1978. HD 9502. U53 H33; Energy Self-Sufficiency for the County of Kauai. June 1979 HD 9502 H53 H31

The development of Hawaii's natural energy resources would promote economic growth by attracting new and diversified industries which in turn would create new lasting jobs. Eventually, this development would permit the export of energy and energy-intensive products....

The State of Hawaii with its abundance of natural energy resources is the obvious place to begin a program leading to energy self-sufficiency." 12

### **Pre Con Con (1977 - early 1978)**

Article X Section 1 of the State Constitution (pre November 1978) read:

"The legislature shall promote the conservation, development and utilization of agricultural resources, and fish, mineral, forest, water, land, game and other natural resources."

During the 1977 legislative session, the Legislative Reference Bureau (LRB) was authorized to provide documentation assistance for the upcoming Constitutional Convention (ConCon).

The LRB Constitutional Amendment Information Sheets published in May, 1978, discussed the language used in this section of the Constitution:

"The legislature shall promote ... It should be noted that under this provision state agencies or subdivisions of the state are not included, although the legislature clearly has the authority, if it wishes, to require them to comply with programs or laws designed to implement this policy. ... A broader mandate, such as 'the policy of the state shall be ...' or even 'the public policy of the state and duty of each person ...' is useful if the people believe that the public policy in question is so important and relevant to every aspect of social, economic, and governmental activity that it should be universally applied."13 (emphasis added)

### **State Constitutional Convention (1978)**

The State Constitutional Convention (ConCon) of 1978 proposed amending the constitution to include the term energy-self-sufficiency: Article XI, Section 1 was

 <sup>&</sup>lt;sup>12</sup> Energy Self-Sufficiency for the State of Hawaii September 1978; HD 9502 H32 H3 1978. Forward, pages vi-vii.
 <sup>13</sup> Constitutional Amendment Information Sheets (May 1978). James Shon. LRB Library KFH 401 1978 A85 L45 pages 11-12

adopted by the ConCon and enacted by the popular vote in the November 1978 general election: "the State ... shall conserve and protect ... natural resources, including ... energy sources, and shall promote the development and utilization of these resources ... in furtherance of the self-sufficiency of the State." (emphasis added)

The Committee on Environment, Agriculture, Conservation and Land's Standing Committee Report ("SCR") No. 77 was the only committee report from the ConCon dealing with this amendment:

"Your Committee on Environment, Agriculture, Conservation and Land ... begs leave to report as follows ... The consensus of your Committee with regard to self-sufficiency was to constitutionally recognize the growing concern and awareness of Hawaii as being overly dependent on outside sources for, among other resources, food and energy. Your Committee spent much time considering the need for a separate section on an energy policy for the State. However, it was concluded that the promotion of energy conservation, the development of clean, renewable sources of energy, and the achievement of increased energy self-sufficiency would be adequately covered by the provisions of this section." (emphasis added)

### **Pre Election Day Notification (November 5, 1978)**

The Sunday Star-Bulletin & Advertiser (on Sunday the papers produced one uniform paper) had a bold headline spread across pages A26 & A27:

DO SOMETHING REALLY IMPORTANT

#### PROPOSED CONSTITUTIONAL AMENDMENT SUMMARIES

On the left side of the page was the statement: "Study your Constitutional Convention ballot carefully before you vote. You may vote YES in Part A if you approve of every one of the 34 ballot items, or you may vote NO to reject them all. Should you want to reject some of the items, vote no on those you disapprove on a selective basis in Part B. If you have any questions about the ballot instructions be sure to ask the election officials at your polling place. Read the summaries of the amendments being offered and make your decisions on the issues. If you have any questions, call the Con-Con Hotline: 533-1970 or 533-1683. Neighbor island residents call collect.

<sup>&</sup>lt;sup>14</sup> Constitutional Convention of 1978: LRB Ref. KFH 401 1978 A225 v1 c1; <u>See also</u>: Constitutional Amendment Information Sheets. LRB

At the bottom of the page was the statement:

Con Con is Important to Everybody

Prepared by the Submission & Information Committee of the Con Con of Hawaii 1978.

In between were the 34 summaries. One of them follows:

#### "23. Environment and Resource Protection

If approved, the State and the counties would be required to conserve and protect the natural beauty and resources of Hawaii and to promote the use and development of these resources in a manner consistent with conserving the resources while promoting self-sufficiency in Hawaii. Each person is affirmed to have the right to a clean and healthy environment with the State holding all public natural resources in trust for the benefit of the people. Each person would have the right to sue to enforce his right to a clean and healthy environment as defined by law."

Life of the Land comments: Amendment 23 should not be confused with either Amendment 25 (protection of agricultural lands) or Amendment 26 (banning nuclear reactors).

### **Election Day (November 7, 1978)**

Proposed Constitutional Amendment 23 was approved by the popular vote.

### LBR Analysis (Late 1978)

The LBR published a second round of Constitutional Amendment Information Sheets in late 1978. These were designed to inform the 1979 Legislature explaining the nature of the changes to the State Constitution, as amended by the voters in the November elections. These sheets noted the difference between the proposed energy and the agricultural amendments to the State Constitution.

Energy: "Committee Report ... The provision regarding 'self-sufficiency' was included to recognize the growing concern and awareness of Hawaii as being overly dependent on outside sources for, among other reasons, food and energy. ... Legislation. No

legislation appears necessary at this time. 15

Agriculture: "Digest of Amendment ... Provides the State shall conserve and protect agricultural lands, promote diversified agriculture, increase agricultural self-sufficiency and assure the availability of agriculturally suitable lands. Provides the legislature shall provide standards and criteria to accomplish the foregoing. ... Committee Report ... Notes section has been amended to safeguard existing agricultural lands designated by the State. Notes the reclassification of these lands shall now require, in addition to approval by the state land use commission, or any other body assigned this function, the approval by 2/3 of each house of the legislature. ... Legislation. Legislation necessary to provide standards and criteria must be developed to accomplish goals of conservation and protection of agricultural lands, promotion of diversified agriculture, increased agricultural self-sufficiency, and assurance of the availability of agriculturally suitable lands."16

### **Life of the Land Conference (November 1978)**

Life of the Land held a 3-day Conference on Jobs and the Environment (November 1978) in which a vast majority of the panels and most of the 70+ panelists dealt with energy. The Honolulu Advertiser: "Hawaii spends \$600 million a year on imported oil and is especially vulnerable if the supply is disrupted. A panel last night, part of the Conference on Jobs and the Environment, discussed what should be done about this fact of life and what the prospects are for alternative energy sources and creation of jobs."17

### **United States Senate Hearings (Hawaii, November 1978)**

A U.S. Congressional Subcommittee met in Hawaii (November 1978) to focus on island self-sufficiency. While the federal action is not binding on state law, it is interesting to see how national and local political forces were moving in lockstep together down the same path. United States Senator Spark Matsunaga presided over public hearings on

<sup>&</sup>lt;sup>15</sup> Constitutional Amendment Information Sheets (late 1978). page 110

<sup>&</sup>lt;sup>16</sup> Ibid. pages 111-12

<sup>&</sup>lt;sup>17</sup> Panel Discusses Isle Energy Problems. Honolulu Star Bulletin Saturday, November 18, 1978, page A-3

<u>Senator Matsunaga</u>: "I am very pleased to be chairing these hearings because this afternoon and during subsequent hearings we will be building a public record on a very important subject, not only for Hawaii and other island communities, whose Representatives will be testifying today, but also for the entire Nation. The subject of these hearings is <u>island self-sufficiency</u>, and in that regard, members of this subcommittee are especially interested in <u>alternative energy resources</u> and the role which these resources can play in stabilizing island energy economies." (emphasis added)

<u>Senator Daniel Inouye</u>: "We need only to be reminded of the oil embargo of 1973-74 to recall the vulnerability of our State to capricious foreign sources of supply and to realize the importance of the development of alternative energy technologies. Steps towards <u>energy self-sufficiency</u> not only stop the flow of dollars out of our State to foreign oil producers but in addition, <u>the implementation of alternative energy in Hawaii contributes significantly to our economy by creating jobs and diversifying our economic base. <u>Energy self-sufficiency is properly a priority goal for our State</u>."<sup>20</sup> (emphasis added)</u>

<u>Governor Ariyoshi</u>: "Thus, the great oil crisis of 1973-74, when for about 5 months the OPEC nations carried out their total ban on oil exports to the Unites States, became a crisis for our Nation--for the entire world, in fact. We felt it deeply in our islands. We learned how vulnerable our concentrated supply and distribution systems were. <u>We had all our energy eggs in one basket</u>, and that basket was in danger of toppling."<sup>21</sup> (emphasis added)

Representative Cecil Heftel: "Suddenly, thanks to the linkage of age-old natural energy and modern science, the people of Hawaii find opening before them an extraordinary adventure requiring the development and application of the best intelligence, imagination, and daring. To awaken and unite those worthy qualities, we need to recapture some of the spirit of the ancient Polynesians when they conquered that vast, awesome, seemingly impenetrable unknown that would in a later age be named the Pacific Ocean.

How many of us think of alternative energy in that way? There is no reason why we

<sup>20</sup> Ibid, page 3

<sup>&</sup>lt;sup>18</sup> The Role of Alternative Energy Resources in Promoting Island Self-Sufficiency. Hearings before the Subcommittee on Energy Research and Development of the Committee on Energy and Natural Resources, US Senate, Ninety-Fifth Congress. (Honolulu, Hilo, Wailuku, Kauai, November 28-30, 1978). US GPO Publication No. 95-177. (1979) HD 9502 H3 U5374. Hawaii State Library H 333.8U 1979

<sup>&</sup>lt;sup>19</sup> Ibid, page 1

<sup>&</sup>lt;sup>21</sup> Ibid, pages 4-5

shouldn't. The main difference between the ocean-spanning achievements of the Polynesians and the Apollo space program, between a canoe such as the Hokule'a and a modern spacecraft, is in certain techniques accumulated with the passage of time. In both cases, the imagination and the daring involved spring from the same dynamic creative impulses. Hawaii must nuture these impulses if it hopes to perpetuate itself with any degree of originality and grandeur.

The imagination needs more than the inspiration of memory to survive. It also needs the inspiration and challenge of a future filled with exciting promise. With this new shift in perception about energy, our primary tourist attractions--the ocean, our volcanoes, our trade winds, our year-round sunshine--have now acquired an added dimension of environmental value. These natural phenomena could become the foundation for a flourishing energy industry, profoundly transforming the social environment of our State, and much to the better, I think. Hawaii could find itself no longer an outland to the mainland, but instead a world center of energy research and development.

The opportunity for our young people would expand a thousand-fold. With a nonpolluting energy base of unprecedented proportions, our children could move in almost any direction of economic, scientific, and artistic development, breaking new ground with each step. ...

I could go on and on, but the point is, we now have it in our power to preserve our natural environment and revitalize and diversify our social environment to an extent that should envy from every corner of the globe. But first, we need to educate our imagination to take in the full potential for Hawaii of the truly historic events now occurring in the field of energy, events spurred by a core group of knowledgeable and farsighted citizens of our State, many of whom will be testifying at these hearings."22

Senator Akaka: "There is no single energy resource that will meet all of our growing needs. However, carefully developed combinations could make energy self-sufficiency for Hawaii a reality. In fact, even energy exportation is not an unthinkable expectation. Moreover, the development of the State's alternative energy capacities would do much more than merely reduce our dependence on imported petroleum. Economically, it would substantially lessen our dollar outflow and improve Hawaii's balance of payments. It would help to slow the ever increasing cost of electricity in these islands, thereby strengthening existing industries and encouraging new ones. ... Still, Mr. Chairman, we all know that there is much more to be done. I would like to see Hawaii become the alternative energy model for the United States, and I know that you share that wish. After years of petroleum dependence, we finally realize that we are naturally blessed with virtually every form of renewable, environmentally sound alternative energy source there is. For the sake of our people, we must not let this bounty sit idly."23 (emphasis

<sup>&</sup>lt;sup>22</sup> Ibid, pages 8-9 <sup>23</sup> Ibid, pages 10-11

# Public Utility Regulatory Policies Act (1978-83)

Congress adopted the Public Utility Regulatory Policies Act (PURPA) in 1978. This legislation required utilities to purchase renewable energy and cogeneration from qualifying facilities. The constitutionality of PURPA was upheld by the U. S. Supreme Court in 1982.<sup>24</sup> The Hawaii PUC largely adopted the federal rules. In 1983 the Hawaii PUC issued a decision which stated in part that it would adopt FERC interpretations of PURPA, as long as they did not contradict Hawaii law.<sup>25</sup>

### **State Legislature (1979)**

HNEI Director Paul Yuen re HNEI Budget (January 18, 1979):

"The benefits of achieving energy self-sufficiency for Hawaii are both direct and indirect. Hawaii would no longer be so dependent on outside energy suppliers, and the danger of economic dislocations would decrease considerably. An improved balance of payments would result; and new, higher-level jobs could be created through the growth of energy-intensive industries. Hawaii would have pollution-free methods of generating electricity, and would be able to rely on inexhaustible resources to meet its energy needs. ... The hundreds of millions of dollars spent annually by Hawaii to import petroleum are not recoverable ... The natural energy resources in Hawaii are environmentally clean; they pollute neither the air, the ground, nor the water. The energy source for most of the natural resources is the sun. Use of the sun is free, and most important, the sun's energy is inexhaustible. No danger exists of rash, unthinking depletion of the supply. ... The proof that the concept of energy self-sufficiency has gained acceptance is seen in the county programs and the funding by DOE. ... Energy self-sufficiency is not just a futuristic dream for the use of exotic energy resources; it is a concept that is possible and viable for Hawaii."

HNEI Director Paul Yuen re State Senate bills SB 106 & 107 (February 8, 1979):

"Hawaii's energy dependence is a serious situation, In 1977 Hawaii spent over \$600

<sup>&</sup>lt;sup>24</sup> FERC v. Mississippi 456 U.S. 742.

<sup>&</sup>lt;sup>25</sup> Wind Power Pacific Investors-III and Waikoloa Water Co., Inc. Docket No. 4779. Decision and Order No. 7578. June 20, 1983

<sup>&</sup>lt;sup>26</sup> State Archives. Testimony before the Senate Committee on Energy and Natural Resources.

million on imported petroleum; the most recent figures available indicate that 92 percent of Hawaii's total energy needs are met by imported petroleum. ... Last year, 40 million barrels of petroleum flowed into Hawaii's harbors. This petroleum coming into the State was paid for with dollars going out. ... In order to reduce the dollar outflow and improve the State's balance of payments, Hawaii's dependence on imported petroleum first must be reduced."<sup>27</sup>

### The Creation of HEI (1981-83)

A few years after the state Constitution was amended, HECO decided to undergo a corporate transformation. HECO became a subsidiary of Hawaiian Electric Industries (HEI).

HECO President Pratt stated: "The restructuring plan will provide the means for a more clearly defined separation of the utility and non-utility operations." "Industries will not be regulated as a public utility, and it can in the future form subsidiaries which will engage in non utility businesses, for example, alternative energy development. The restructuring plan will insulate the regulated utilities (Heco, Helco and Meco) from the influence and possible losses of other businesses in which Industries and its non utility subsidiaries may invest. This should clarify and simplify the regulatory process." "Further commercialization of energy from these renewable resources is needed. It is the intention that the restructuring plan provide a means of assisting these efforts to enhance commercialization of alternative energy technologies."

HECO Brief: "The Company's evidence demonstrates that the selection of the restructuring plan over one of the alternatives--"mere diversification"-- was because "mere diversification" was not a practical business approach. Mr. Pratt explained this (Tr 5 at 34), as follows: 'There seems to be some, I think some confusion in the use of the word 'diversification' and 'restructuring' sometimes interchangeably, sometimes diversification as the reason for restructuring or restructuring as a way to accomplish diversification. In the Consumer Advocate testimony bottom of page 6, this question is raised but the way it is stated, it says, it implies that diversification itself is not that bad but when you do it through restructuring, then you really got a problem. I think that to be realistic, and I think that we should try to do that in every case to shorten this thing. We need to see that diversification without restructuring as a hollow proposal.'

[emphasis added] Diversification through action taken by the utility or a utility subsidiary

<sup>&</sup>lt;sup>27</sup> State Archives. Testimony before the Senate Committee on Economic Development. Chair T. C. Yim

<sup>&</sup>lt;sup>28</sup> PUC Docket 4337 (Creation of HEI): HECO Exhibit I. Direct Examination of C. Dudley Pratt, Jr., President of HECO. November 5, 1981. HECO Attorneys: Marshall M. Goodsill, Hugh Shearer, Goodsill Anderson & Quinn. page 6

<sup>&</sup>lt;sup>29</sup> Ibid, pages 6-7

<sup>30</sup> Ibid, page 8

would not provide the financial and operational flexibility which is the entire purpose of the restructuring plan."<sup>31</sup> (emphasis added)

HECO Brief added: "There would be little insulation of the utility from risk if the utility's own subsidiary were in a risky area." "One of the purposes of the proposed restructuring of Industries is to insulate HECO from the risks of ventures that might be engaged in--something that could not be achieved through "mere diversification". Indeed, it is axiomatic that the purpose of creating subsidiary corporations is to insulate one business enterprise from the risks of another."

HECO Reply Brief: "Applicants' prepared direct testimony filed September 11, 1981 (testimony of C.D. Pratt, Jr. and A.T.F. Ing), supplemented by the testimony of these two witnesses at the hearings on November 5 and 6, 1981, provides amply support for their Applications. This testimony is uncontradicted. It shows the objectives of the restructuring plan, the fact that it will assist in the development of alternative energy resources in the State, the fact that the type of development cannot take place under present regulatory and financial restraints affecting HECO, that the restructuring plan will permit sharing of common costs among the various companies, and that the plan will improve the ability to raise common equity from the public at higher prices and with lower costs."33 ... "Applicants never stated that alternative energy ventures were not risky. Indeed, one of the reasons for the restructuring plan is to help to insulate the regulated utilities from possible losses in innovated alternative energy ventures. Application, p. 9; Tr at 10, 62. Obviously, if the utility itself or a direct subsidiary of the utility were engaged in an unsuccessful alternative energy venture, this would directly reflect on the financial condition of the utility. If the same venture were engaged in by an unregulated subsidiary of the holding company, this would not be the case. Tr 5 at 62."<sup>34</sup> (emphasis added)

### PUC: Kahuku Wind Power (October 11, 1983)

The PUC ruled in 1983 that Heco and not HEI should invest in the Kahuku Windfarm, in part because there were no Independent Power Producers stepping up to the plate and in part because HEI (having just formed) lacked the resources to handle it. The PUC quoted directly from HECO's filings: "HECO's Case. The CA's approach is to stand back and wait for some hoped-for third-party to develop commercially viable wind power

<sup>&</sup>lt;sup>31</sup> PUC Docket 4337 (Creation of HEI): HECO Brief. December 4, 1981. HECO Attorneys: Marshall M. Goodsill, Hugh Shearer, Goodsill Anderson & Quinn. page 23

<sup>32</sup> Ibid, pages 23-24

<sup>&</sup>lt;sup>33</sup> PUC Docket 4337 (Creation of HEI): Reply Brief on Behalf of HECO & HEI. HECO Attorneys: Marshall M. Goodsill, Hugh Shearer, Goodsill Anderson & Quinn. <u>page 19</u>

<sup>&</sup>lt;sup>34</sup> Ibid, <u>page 21</u>

systems. However, the CA's approach is not a viable alternative, and the substantial delay involved would be inconsistent with State policy. The CA witness admitted that the CA was unaware of any third-party willing to invest in the project. HECO investigated other financing arrangements, and found that they were not viable, primarily because of the high return requirement. (page 12) ... Certainly, the project is necessary or useful for public use purposes since it will be used to generate electricity, and will displace the burning of fuel oil. In addition, the demonstration of large-scale wind turbine generators in Hawaii would represent a large step forward in reducing HECO's dependence on imported oil and in reducing electric energy costs. (pages 13-14) ... Discussion. As for the Consumer Advocate's suggestion that HEI, HECO's parent company, should undertake the MOD-5 project, we are of the opinion that the status of wind turbine development at the present time precludes HEI from undertaking the venture itself. The project cost of 23 million dollars appears too much a venture for HEI under the present circumstances."

# **HEI: Alternative Energy Development Efforts (1984)**

In response to a 1983 Legislative Concurrent Resolution, HEI filed a report with the Legislature in January 1984:

"Hawaii is dependent on oil for the generation of over 90 percent of its electrical supply. This dependency makes the state vulnerable to oil supply disruptions and to price increases. Citizens, utilities and state government have little or no control over these events. ... Because Hawaii is susceptible to short-term supply disruption and long-term price escalation, there has been a concerted effort to develop indigenous, renewable energy resources. Energy self-sufficiency is Hawaii's ultimate goal."

"Most of the energy value of oil is burned to make electricity escapes as heat to the atmosphere."

"Because petroleum is both a premium energy petro-chemical resource and a commodity of finite availability, as demand increases and supplies diminish over the

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<sup>&</sup>lt;sup>35</sup> Hawaii Public Utilities Commission's Decision and Order 7700 in Docket No. 4834 (HECO's Request for Approval to Purchase MOD-5A Wind Turbine Generator) is instructive.

long term, oil prices will climb faster than other energy sources. Given Hawaii's oil dependence, there has been a concerted effort to develop indigenous renewable energy resources with energy self-sufficiency as the ultimate goal. The Hawaii State Plan, adopted in 1978, the recently adopted State Energy Plan and the County energy plans all include energy self-sufficiency as a specific objective. The policy of the three Hawaiian Electric utilities is to support the goal of energy self-sufficiency for the state."

"Any effective and economic means to reduce the state's dependence on oil is desirable. Wind, sugar cane waste, geothermal steam and municipal refuse are all sources of renewable energy that can help Hawaii 'get off oil.'"

"The Hawaiian islands have some of the best wind regimes anywhere in the world, especially on the island of Hawaii."<sup>36</sup> (emphasis added)

### Hawaii PUC (October 8, 1987)

The PUC denied HECO's application for the authority to offer private fiber optic cable (FOC) transmission service for data and voice communications through existing underground ducts located in a public right of way (ROW).

PUC Decision: "HECO noted that there is no legal prohibition in its charter of incorporation preventing it from engaging in the telecommunication business, nor is there any legal prohibition for public utilities, under the general corporate laws of the State, to engage in non-utility businesses. HECO further submitted that its franchise does not prevent HECO from utilizing its ducts that are located in the public right-of-way for a purpose other than the transmission of electric energy. HECO even contended that it could build a 'night club' in the public right-of-way if it could get the 'proper authority." As to the public interest presented in this proceeding, we are basically in agreement with the reasoning presented by HTC [Hawaiian Telephone Company] and the CA [Consumer Advocate] as to why HECO's proposal must be denied. The potential loss of revenue by HTC is not a far fetched idea should HECO be allowed to service large business customers with FOC services. The disruption to HTC revenue requirements would, as the CA has argued, be contrary to the policies enumerated for energy and telecommunications under Chapter 226, HRS. Furthermore, it may ultimately have a heavy rate impact to HTC's remaining businesses and other customers. The potential future disruption to HTC, we believe, far outweighs the FOC project proposed in this proceeding."<sup>38</sup> (emphasis added)

Legislative Reference Bureau Library (Hawaii State Capitol, Chamber Level) KFH 421.5 R47 A85. LRB 86-49
 Hawaii PUC: Re Hawaiian Electric Company, Inc. Docket No. 5777. October 8, 1987. 87 PUR4<sup>th</sup> 227, 230

<sup>&</sup>lt;sup>38</sup> Ibid, 87 PUR4<sup>th</sup> 227, 232

### **Market Control**

A critical topic that must be explored is that of monopolies, et al. A Monopoly is an entity that <u>controls</u> the means of <u>producing or selling a commodity or service</u>. An Oligopoly is when a few entities together control a market. There are several measures of market power, some of which will be elaborated below.

A wave of transformations variously known as deregulation or restructuring marched across the electrical industry landscape throughout the U.S. and the World in the 1990s. The Hawaii PUC opened up a generic docket to look at how the Hawaii electric industry might be affected. Parties included Life of the Land and the utilities. This docket opened with a bang (1996), sputtered along, and died out (2003). Interesting and relevant analyses of monopolistic power and market power are available from a variety of sources, including the United States Department of Justice (1995), the Federal Energy Regulatory Commission (1995), Consumer Advocate (1998). and HECO (1998).

# <u>Department of Justice:</u> <u>Promoting Competition in Telecommunications (1995)<sup>39</sup></u>

"It is common these days to talk about the "telecommunications revolution" and how it is transforming our lives. Indeed, the changes in the past ten years have been breathtaking. Services that were novel a decade ago are taken for granted today. None of us thinks twice, for example, about faxing a document across the country -- or around the world. Cellular phones, cable television, a choice of long distance carrier -- all are a part of everyday life in the United States.

America is the world leader in this revolution in no small part because we were the first nation to commit to opening our telecommunications markets to competition, which we did when we dismantled AT&T's vertically integrated telephone monopoly. We should not forget, however, the hurdles that effectively slowed competition before the success in 1982 of the Justice Department's antitrust suit.

<sup>&</sup>lt;sup>39</sup> Department of Justice: Promoting Competition in Telecommunications (1995): Address by Anne E. Bingaman, Assistant Attorney General, Antitrust Division, U.S. Department of Justice. Before The National Press Club. Washington, D.C. February 28, 1995. www.usdoj.gov/atr/public/speeches/telecomp.htm

Long after competition in long distance service and communications equipment became technologically and economically feasible, AT&T frustrated consumer choice and actual competition through abuse of its monopoly control over local networks. ...

Competitors detected AT&T's anticompetitive conduct and fought it in the courts and before regulators. The result more often than not was one step forward, one step back - incremental progress that rarely could keep up with AT&T's ability to find new ways of impeding access to the local networks or disadvantaging other equipment manufacturers. ...

AT&T succeeded in imposing such burdensome conditions on the interconnection of non-AT&T equipment that evidence of those conditions was an important part of the monopolization case that the Justice Department presented in 1981. As long as AT&T controlled the strategic bottleneck of a local telephone monopoly, litigation and regulation could not hope to promote free competition in long distance and equipment markets or protect captive ratepayers from inflated prices.

Indeed, the problem was related partly to the nature of regulation itself. With regulation constraining rates in the local market, AT&T had the incentive to use the local monopoly to increase profits in the long distance and equipment markets. As long as consumers had no choice of local service provider, structural separation that prevented the regulated monopolist from participating in the other markets was necessary to prevent the abuses that plagued the industry and thwarted competition.

Regulators and would-be competitors were not the only ones stymied by the problem of the AT&T telecommunications monopoly. The Justice Department sued AT&T twice, in 1913 and in 1949, before bringing the suit that resulted in the MFJ [Modified Final Judgment]. Those first two efforts to protect competition in telephone markets ultimately failed, because the relief obtained was not comprehensive enough." (emphasis added)

# US Federal Energy Regulatory Commission (1995)<sup>40</sup>

"In today's electric industry, which is dominated by vertically integrated utilities, an owner or controller of transmission service can exclude generation competitors from the market, thereby favoring the transmission owner's own generation. This can occur through outright denial of transmission access, or, as is more likely, through access that is discriminatory as to rates, terms or conditions of service.

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<sup>&</sup>lt;sup>40</sup> Promoting Wholesale Competition Through Open Access Nondiscriminatory Transmission Services by Public Utilities Docket No. RM958000. Recovery of Stranded Costs by Public Utilities and Transmitting Utilities Docket No. RM947001 Notice of Proposed Rulemaking and Supplemental Notice of Proposed Rulemaking. March 29, 1995www.emanifesto.org/FERCNOPR/FERCiiid.htm

Thus, in the absence of nondiscriminatory open access tariffs, the development of fully competitive bulk power markets cannot occur, and consumers will be deprived of the benefits that would be expected from such a competitive market. ...

However, because utilities are naturally profit maximizers and monopoly suppliers to their native load, the vast majority of transmission owning utilities have not agreed to give up their market power voluntarily. <u>Transmission owning utilities have an incentive to deny access either by not filing any open access tariff or by filing a tariff that offers services inferior to those used by the transmission owner.</u>

This is particularly true for those utilities that emerged from the recent decades of technological and legal changes as high cost generation companies. Open access transmission places their existing generation at risk because their wholesale customers may seek alternative lower price suppliers. It is in their self-interest to maintain and use market power to retain (or expand) market share for their existing generation facilities, at least until they can get their generation costs in line with current market prices. ...

In the past, transmission owning utilities have discriminated against others seeking transmission access. Transmission owning utilities have denied access by outright refusals to deal. While such actions tend to be rare, likely because transmission owners fear they may trigger antitrust action, they have occurred.

More often, however, discrimination is likely to be manifested more subtly and indirectly. One such way would be for transmission owners to adopt a negotiating strategy that involves a sequence of informational and other requirements over a protracted period of time.

By the time all of the requirements are finally satisfied, the window for the customer's trade opportunity has closed. Another way of frustrating access is to substantially change the terms of negotiated agreements through protracted delay, including filings with regulatory agencies.

Another way for transmission owning utilities to frustrate access and competition is to allow access, but only on non-comparable or unsupportable terms and conditions that are inferior to the conditions under which the transmission owners themselves use or could use the transmission grid or on terms and conditions that have no operational or financial basis. ...

As the wholesale power markets become more competitive, delayed access becomes a matter of increasing concern." (emphasis added)

### The Consumer Advocate (1998)

"The Herfindahl-Hirschman Index (HHI), which measures market concentration in order to establish the potential for anticompetitive behavior through implicit price collusion, can also be used to establish a threshold criteria. Based on the FERC guidelines and the HHI criteria, a threshold criteria could be an expectation that at least five independent generation suppliers of comparable size would participate in the market in the long-run." <sup>41</sup>

# Hawaiian Electric (1998)<sup>42</sup>

"The Herfindahl-Hirschman Index (HHI) is a measure of Industry concentration calculated by squaring the percentage share of each firm in the industry, then summing the squares. The HHI measures market concentration in a way that gives a great deal of weight to the share of the largest one or two firms in the market. It does so by squaring the percentage each firm has in the market and summing the squares."

"Each firm's share of the market can vary from 100 (a pure monopoly, with only one firm in the market) down to almost zero (where there are a large number of firms in the market). For a pure monopoly, the HHI is equal to  $10,000 (100 \times 100 = 10,000)$ . By contrast, if there are 100 firms in a market, each with an equal one percent share, then the HHI is equal to 100."

"The HHI is a more sophisticated tool for measuring market power than the traditional concentration ratio, which treats a market with four firms of equal size the same as a market with four firms, one of which has 70 percent of the market and three that have 10 percent each. The HHI would assign the equal-shares market an index of 2,500 and the unequal-shares market an index of 5,200, indicating the larger potential for market power when one firm has a 70 percent share of the market. Only the shares of the larger firms are needed to approximate the index, since firms with small shares add little to the HHI."

"Under the DOJ/FTC Merger Guidelines, ... a market with an HHI above 1800 is "highly concentrated."

"If it is assumed that all the existing electric utility generation facilities are sold by the electric utility to different companies and all the electric utility's firm power purchase agreements are terminated, the HHI analysis of that hypothetical electric market would still indicate that the market would be too concentrated for effective competition. For the

<sup>&</sup>lt;sup>41</sup> Final Comments. DCA October 16, 1998. PUC Docket 96-0493.

<sup>&</sup>lt;sup>42</sup> HECO's Preliminary Statement of Position (June 5, 1998) in the PUC Generic Docket re: Investigation of Restructuring (DN 96-0493). HECO's analysis seeks to explain why competition will not work in Hawaii

island of Oahu, the HHI would be 2,730 using megawatt hours to reflect market share, and 2,644 using megawatt capacity to reflect market share ... For the island of Hawaii, the HHI would be 2,014 using megawatt hours to reflect market share, and 1,444 using megawatt capacity to reflect market share ... For the island of Lanai, the HHI would be 10,000, since the Miki Basin Power Plant is only operating electric generating facility on the island of Lanai. ... For the island of Maui, the HHI would be 2,610 using megawatt hours to reflect market share, and 2,298 using megawatt capacity to reflect market share ... And on the island of Molokai, the HHI would be 10,000, since the Palaau Power Plant is the only generating facility on the island of Molokai. ... Moreover, the effectiveness of competition due to new generators in the future is not too likely, because there are barriers to entry by new competitors. Entry barriers generally are market conditions that make entry more costly or time consuming, and thus, reduce the effectiveness of potential competition as a constraint on the pricing behavior of existing firms."

### **HECO's CHP Application (2003)**

HECO filed an Application with the PUC for the right to provide Combined Heat and Power (CHP) systems. HECO estimated that the utility CHP would dominate: Oahu: 72 utility systems out of 97 total systems (74%); Hawaii: 68 utility systems out of 92 total systems (74%); Maui: 76 utility systems out of 99 total systems (77%). The HHI would be at least 5000 for each island's CHP market. This, by HECO's own analysis of HHI, is clearly an example of market power.

The number of CHP units would be large enough to give the utilities a new market, but small enough not to threaten their traditional bread and butter central generation paradigm. It would neither threaten the need for (1) the East O`ahu Transmission Project; (2) a new Campbell Industrial Park Power Plant in 2009; or (3) the Waena Power Plant on Maui. Furthermore, because non-utility systems would be limited, no one else could threaten their intended plans.

### **Distributed Generation Docket (2003-)**

The PUC suspended the CHP docket and opened a generic docket on Distributed Generation. The threshold question in the docket is ownership. Should utilities be able to directly own DG, own it through an affiliate, or not own it at all. Several competitors said they had to enter the docket to protect their interests from HECO's aggressive CHP campaign. Mysteriously, all of HECO's competitors abruptly withdrew from this docket.

# **HECO Integrated Resource Planning (IRP) Docket (2004-)**

In evaluating alternative scenarios for the orderly development of power resources on O`ahu over the next 20 years, HECO's fossil fuel advocates designed renewable energy scenarios that would (a) cost more; (b) generate more pollution; and (c) have greater needs for new transmission lines than traditional fossil fuel options. Further, important economic, social and environmental impacts were left out of the analysis. Life of the Land has filed a Motion to Intervene in this docket.

### Life of the Land's Statement of Position

Life of the Land strongly believes that replacing imported fuel with indigenous fuel has an enormous positive impact on local jobs and on economic prosperity. These twin economic externalities are often ignored in limited costs and benefits analyses of alternative energy futures. For Hawai`i, switching from imported fuels to indigenous fuels is equivalent to switching from fossil fuels to renewables, which also has positive environmental externalities. Life of the Land believes that a full appreciation of these economic and environmental externalities is crucial to building the proper framework for Distributed Generation. Our Statement of Position starts with an Economic Analysis.

Which energy future maximizes state Gross Domestic Product (GDP), has the largest increase in employment, diversifies the economy, and offers the greatest opportunity to prevent external economic shocks from damaging our local economy? Is this the path that we are on? If the current energy strategy is not optimal from the economic

maximizing strategy, then what does the current strategy maximize and who does it benefit? If the current energy strategy is different, what is the most effective way for shifting our current system to the ideal future system?

The answer is that renewable energy DG maximizes the economy.

Historically, fossil fuels transformed the world from a pre-industrial era to a post-industrial era and into the information/technology era. However, the rapid technological advancement of society has come with enormous negative externalities brought about by our unsustainable energy policy. It is imperative that we move beyond fossil fuels. The answer to our twin dilemmas (maximizing GDP, creating a sustainable future) has a common answer: Distributed Energy Resources.

Enterprise Honolulu (formerly known as the Oahu Economic Development Board): "A Key characteristic of a healthy economy is that it exports more than it imports. This is especially important for an island economy with no land-based contiguous markets. These goods arrive each day in containers at Sand Island and at the airport via cargo planes from global suppliers in other parts of the world.<sup>43</sup>

There have been numerous analytical studies<sup>44</sup> on the relationship between increasing the use of indigenous fuels and its effect on economic growth and job creation. The relationship holds true for whatever type of fuel exists locally.

Energy policy can not be separated from economic policy, nor should it. The economic multiplier effect means that one dollar invested in Hawai`i generates additional dollars to the state economy, and one dollar exported decreases the state GDP by more than one dollar. Institutions, such as DBEDT, use economic multipliers in their economic analysis.

Hawaii Department of Business, Economic Development, and Tourism (DBEDT) (2001); Center for Business and Economic Research at the University of Nevada, Las Vegas (2003); Black & Veatch: Economic Impact of Renewable Energy in Pennsylvania (March 5, 2004).

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<sup>43</sup> www.enterprisehonolulu.com/html/pdf/EHeseries10.pdf

Each dollar that a tourist brings into Hawai`i ripples through the economy, each dollar exported for oil is a potential ripple that never materialized. The economic multiplier is calculated by analyzing money flows via an Input-Output Model. The analysis looks at both direct spending and indirect spending. Two related issues are foreign investment and leakage. Foreign investment refers to out-of-state money that is invested within the local economy. Leakage refers to all the ways money in the economy leaks out of the economy.

For Hawai`i, we could bring money into the economy by providing markets for local (Hawai`i) and foreign (non-Hawai`i) investors, encourage investments by wind companies; keep money in Hawai`i by using renewables such as solar water heaters and photovoltaic panels; or continuing to export money for oil and coal. This type of comparative analysis is never used in evaluating alternative technologies. Even DBEDT's 2001 study on RPS by GDS Associates did not evaluate these impacts. One easy to understand metric for comparing different alternatives is to compare their relative impacts to the state's future GDP<sup>45</sup>.

Price volatility has a direct and negative short-term and long-term impact on the economy. Price volatility creates hardships for consumers, especially those on fixed income. Businesses are uncertain about their future business costs. Importers and exporters are especially hard hit. Over the short-term, price volatility can disrupt the economy, raise the cost of doing business, and increase the cost of investment capital. Over the long-term, price volatility creates a significant drag on economic growth. Fuel Diversification provides a cushion against market tremors because each fuel class has different risks, rewards, and tolerance to economic events. Fuels whose price movements are opposite each other are negatively correlated. When negatively correlated fuels are combined within a portfolio, the portfolio volatility is reduced. For

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<sup>&</sup>lt;sup>45</sup> The Gross Domestic Product (GDP) measures all economic activity done within an area, regardless of whether it is done by locals or foreigners. This contrasts with Gross State Product (GSP) which measures all economic activity by residents regardless of where they currently live, that is, locally or abroad.

Hawai`i, the overwhelming concentration in one type of fuel -- oil -- means that world oil price fluctuations have enormous impact on our commercial, governmental, tourist and residential sectors.

The huge negative economic externalities associated with the use of imported fossil fuels is separate and apart from the equally devastating negative environmental externalities associated with fossil fuels: ocean-based oil spills since 1970 totaling greater than 100 Exxon Valdez; extensive land-based spills far exceeding ocean-based spills, and even greater air releases, including the majority of the global warming gases released by mankind. And then there is the looming global warming nightmare.

Global Warming: <u>Chemical and Engineering News</u> (March 1, 2004)<sup>46</sup>: Climate Impacts: A Worst-Case View of Global Change. "Defense Department report warns of 'abrupt' global warming impact ... A pentagon report made public last week lays out the worst-case impact from an abrupt change in climate, driven by global warming. The report considers a scenario of a fast change in climate, rather than a more gradual one in which technological innovation could help stave off disaster."

Global Warming: Fortune Magazine (Feb 25, 2004)<sup>47</sup>: CLIMATE COLLAPSE. "The Pentagon's Weather Nightmare: The climate could change radically, and fast. That would be the mother of all national security issues. By David Stipp, Global warming may be bad news for future generations, but let's face it, most of us spend as little time worrying about it as we did about al Qaeda before 9/11. Like the terrorists, though, the seemingly remote climate risk may hit home sooner and harder than we ever imagined. In fact, the prospect has become so real that the Pentagon's strategic planners are grappling with it. The threat that has riveted their attention is this: Global warming, rather than causing gradual, centuries-spanning change, may be pushing the climate to a tipping point. Growing evidence suggests the ocean-atmosphere system that controls the world's climate can lurch from one state to another in less than a decade -- like a canoe that's gradually tilted until suddenly it flips over. Scientists don't know how close the system is to a critical threshold. But abrupt climate change may well occur in the not-too-distant future. If it does, the need to rapidly adapt may overwhelm many societies -- thereby upsetting the geopolitical balance of power. Though triggered by warming, such change would probably cause cooling in the Northern Hemisphere, leading to longer, harsher winters in much of the U.S. and Europe. Worse, it would cause massive droughts, turning farmland to dust bowls and forests to ashes. Picture

Volume 82, Number 9. http://pubs.acs.org/cen/topstory/8209/8209notw9.html
 www.fortune.com/fortune/technology/articles/0,15114,582584,00.html

last fall's California wildfires as a regular thing. Or imagine similar disasters destabilizing nuclear powers such as Pakistan or Russia; it's easy to see why the Pentagon has become interested in abrupt climate change." (emphasis added)

Hawai`i is the ideal place to begin the transformation from imported fossil fuels to indigenous renewable energy: (1) The price of electricity is, and has been for at least a decade, the highest utility rates in the nation; (2) renewable energy resources are abundant, varied and cheap; and (3) environmental damage from accidental oil spills could be devastating.

The <u>sun</u> showers the Earth with an amazingly large supply of energy. Each day more solar energy falls to the Earth than the total amount of energy the planet's 6.1 billion inhabitants would consume in 27 years. (National Renewable Energy Laboratories).<sup>48</sup>

The developable <u>wind</u> power resource of the US, that is, what could be developed without incurring undue impacts to birds, noise, or visibility, is estimated to be between 2 to 10 times the entire electricity consumption of the US. The Pacific Northwest Laboratory (PNL) of the Department of Energy (DOE) has published estimates of the wind power resource available in the United States. ... The total amount of US land with "excellent" wind characteristics, with moderate exclusions, is just over one percent of total land area. This would support approximately 3,500 gigawatts (GW) of wind capacity, this is about five times the 713 GW of 1999 installed conventional utility and non-utility generating capacity in the United States. The set in the United States.

DBEDT's Feasibility of Developing <u>Wave Power</u> as a Renewable Energy Resource for Hawaii: Waves Power (buoys) could generate all (100%) of the state's electrical needs.

All forms of distributed generation are feasible and viable in Hawai'i. Priority should be

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<sup>48</sup> www.nrel.gov/documents/solar\_energy.html

www.cfcae.org/Wind\_Power/Wind\_Facts.htm

<sup>50</sup> www.thegreenpowergroup.org/wind.html

given to those that provide baseload power (at one site or a combination of sites), those that are powered by real renewables (sun, moon, wave, wind), and those that are supplied by indigenous (non-imported) fuel. It is well known that Hawai`i has a great opportunity to move from fossils to renewables:

<u>Donald Aitken</u><sup>51</sup>: Hawaii has the greatest potential to use its own renewable energy resources of any state in the union.

Amory Lovins, 52 a co-founder of the Rocky Mountain Institute: "With renewables like wind and photovoltaic, the islands are blessed and have some of the best wind sites and some of the best solar sites in the country, in the world." (PBN January 26, 2001)

<u>Honolulu Advertiser Editorial</u>: Hawai'i has an opportunity to teach the nation a lesson about energy self-sufficiency and the potential to wean ourselves from dependence on oil and other nonrenewable resources. (January 30, 2001)

Who should own and operate distributed generation projects? It is in the economic self-interest of the utility to use its resources to stymie Independent Power Producers.

During the years of delay, the utility makes money, while the investor loses money. One way of delaying IPPs is by dragging out the negotiations regarding Interconnection Agreements and Power Purchase Agreements. The delays can be subtle: changing terms of contracts, raising new issues, delaying responses, offering financial deals customers who stay with the utility, etc. Some have suggested firewalls between different functions within the utility. Utility firewalls have not worked in Hawai`i. The only reasonable solution is divestiture. Utilities must separate into two companies via a stock split or the utilities must divest themselves of generation<sup>53</sup>. The new generation company would simply be another unregulated Independent Power Producer. The new transmission and distribution company (T&DCO) would be regulated. The controversial issue of the true avoided cost disappears once the T&DCO is separated from all IPPs, and publishes one set of avoided cost numbers for all parties to compete equally.

<sup>51</sup> Former Senior research Scientist for the Union of Concerned Scientists

<sup>&</sup>lt;sup>52</sup> Co-founder of the Rocky Mountain Institute.

<sup>&</sup>lt;sup>53</sup> Life of the Land raised this issue in our Final Position Statement, dated October 15, 1998 in PUC Docket 96-0493 Instituting a Proceeding on Electric Competition, Including an Investigation of the Electric Utility Infrastructure in the State of Hawaii

### RELEVANT CASE LAW

# Hawaii Supreme Court (Hawaii State AFL-CIO et al vs. Dwayne D. Yoshino et al. 1997)

"Because constitutions derive their power and authority from the people who draft and adopt them, "[w]e have long recognized that the Hawai'i Constitution must be construed with due regard to the intent of the framers and the people adopting it, and the fundamental principle in interpreting a constitutional provision is to give effect to that intent." Hirono v. Peabody, 81 Hawai'i 230, 232, 915 P.2d 704, 706 (1996) (citation omitted). "This intent is to be found in the instrument itself." State v. Kahlbaun, 64 Haw. 197, 201, 638 P.2d 309, 314 (1981). As we recently reiterated in State of Hawai'i, ex rel. Bronster v. Yoshina, No. 19940 (Haw. Jan. 28, 1997), "[t]he general rule is that, if the words used in a constitutional provision . . . are clear and unambiguous, they are to be construed as they are written." Id., slip op. at 19 (quoting Blair, 73 Haw. at 543, 836) P.2d at 1070 (citation omitted)). "In this regard, the settled rule is that in the construction of a constitutional provision the words are presumed to be used in their natural sense unless the context furnishes some ground to control, qualify, or enlarge them." Pray v. Judicial Selection Comm'n, 75 Haw. 333, 342, 861 P.2d 723, 727 (1993) (citation, internal quotation marks, brackets and ellipses omitted). Moreover, "a constitutional provision must be construed in connection with other provisions of the instrument, and also in the light of the circumstances under which it was adopted and the history which preceded it[.]" Carter v. Gear, 16 Haw. 242, 244 (1904), affirmed, 197 U.S. 348 (1905). "www.hsba.org/HSBA/Legal Research/Hawaii/sc/20267.cfm

### Hawaii Intermediate Court of Appeals (Petran v. Allencastre, 1999)

"The "fundamental principal in construing a constitutional provision is to give effect to the intentions of the framers and the people adopting it." State v. Miyasaki, 62 Haw. 269, 281, 614 P.2d 915, 922 (1980) (quoting Hawaii Gov't Employees Assn. v. County of Maui, 59 Haw. 65, 80-81, 576 P.2d 1029, 1039 (1978)). When an amendment appears ambiguous, appellate courts may consult extrinsic aids to determine the intent of the framers and of those who adopted the amendment. State v. Kahlbaun, 64 Haw. 197, 201-202, 638 P.2d 309, 314 (1981). To this end, the debates, proceedings, and standing committee reports of the Constitutional Convention will often be useful. (26) Id. at 204, 638 P.2d at 316; See also Pray v. Judicial Selection Comm'n, 75 Haw. 333, 343, 861 P.2d 723, 728 (1993). In addition, the court may look to the "legislative implementation" of the amendment to ascertain the intent of the amendment's framers. Kahlbaun, 64 Haw. at 202, 638 P.2d at 314 (citing Hawaii Gov't Employees, 59 Haw. at 80-81, 576 P.2d at 1039)." www.state.hi.us/jud/ica21787.htm

# Circuit Court, First Circuit (Russell Blair v. Jeremy Harris, 2002)

(Interpreting a Constitutional Convention of 1978 Constitutional Amendment)

"Fundamentally however, courts must give effect to the **intent** of the framers and the voters who adopted the amendment." www.hawaii.gov/jud/blairvsharris.pdf

# **CONCLUSION**

The Constitutional Convention of 1978 proposed amending Article X (now Article XI), Section 1 of the state constitution. The major changes included (1) "the legislature shall" --> "the State shall"; (2) the adoption of an **energy self-sufficiency clause**.

The Con Con Committee Report stated: <u>"the achievement of increased energy self-sufficiency would be adequately covered by the provisions of this section</u>."

The Con Con Submission & Information Committee told the voters: "If approved, the State and the counties would be required to conserve and protect the natural beauty and resources of Hawaii and to promote the use and development of these resources in a manner consistent with conserving the resources <a href="https://www.white.com/whit

LRB published a post 1978 election, pre-1979 legislative session analysis of the amendments: "The provision regarding <u>'self-sufficiency'</u> was included to recognize the growing concern and awareness of Hawaii as being overly dependent on outside sources for, among other reasons, food and energy. ... <u>Legislation</u>. <u>No legislation</u> appears necessary at this time."

"the Hawai`i Constitution must be construed with due regard to the intent of the framers and the people adopting it, and the fundamental principle in interpreting a constitutional provision is to give effect to that intent." ... "This intent is to be found in the instrument itself." ... As we recently reiterated in ... "[t]he general rule is that, if the words used in a

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constitutional provision . . . are clear and unambiguous, they are to be construed as they are written." Hawaii State Court No. 20267 (1997) www.hsba.org/HSBA/Legal Research/Hawaii/sc/20267.cfm

Hawaii was 8% renewable in 1978 and is 7% renewable today<sup>54</sup>.

On 3 separate occasions, HECO/HEI have played with the idea of getting into renewables. They set up subsidiaries/affiliates: HRES, HEIPC, ProVision. They terminated HRES and HEIPC, and sold ProVision. Today, the utilities are miniscule players in the renewable energy market. HECO/MECO/HELCO-owned generators use oil to generate 99.7% of their MWhr output. HECO/MECO/HELCO's proposed CHP tariff will increase this percentage.

### Once again ...

Hawaii was 8% renewable in 1978 and is 7% renewable today.

We must have more renewable energy projects. It is a constitutional mandate. But who should own and operate distributed generation projects? If it is the utility Hawai`i will continue to be dependent on imported fossil fuels and will never achieve its constitutional mandate for energy self-sufficiency. We will continue to pay the highest rates in the nation and our abundant bounty of clean energy resources will sit idly by.

# TABLE OF AUTHORITIES

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<sup>54</sup> www.heco.com/CDA/default/0,1999,

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Constitutional Convention's Committee on Environment, Agriculture, Conservation and Land's Standing Committee Report 77

Constitutional Convention's Submission & Information Committee. Sunday Star-Bulletin & Advertiser pages A26-27

### **ADMINISTRATIVE DECISIONS**

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### OTHER SOURCES

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Hawaii PUC Docket 96-0493 (Investigation of Restructuring): CA's Final Comments; HECO's Preliminary Statement of Position

Hawaii PUC Docket 03-366 HECO's CHP Application

Hawaii PUC Docket 03-371 (DG)

Hawaii PUC Docket 03-253 (IRP)

Dated: March 7, 2005

Henry Q Curtis,
Vice President for Consumer Issues

### Certificate of Service

I hereby certify that I have this date served a copy of the foregoing Information Requests by Life of the Land, Docket Number 03-0371, upon the following parties. Life of the Land hand-delivered the Original plus 10 copies to the PUC; 3 copies to the Consumer Advocate. Life of the Land mailed 2 copies to Alan M. Oshima, Esq. (KIUC); and 1 copy to each of the following parties: Thomas W. Williams, Jr. Esq. (HECO); William Bonnett (HECO); Patsy H. Nanbu (HECO); Alton Miyamoto (KIUC); Brian Moto (Maui); Cindy Y. Young (Maui); Kalvin K. Kobayashi (Maui); Warren S. Bollmeier II (HREA); John Crouch (HREA); Rick Reed (HREA); Sandra-Ann Y. H. Wong, Esq. (HESS); Christopher S. Colman (HESS); Michael de'Marci (HESS); Lani D. H. Nakazawa, Esq. (Kauai); Glenn Sato (Kauai).

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Dated: March 7, 2005

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